

■ The Cost and Impact of Non-Adherence

- CVS Caremark launched a research collaboration with Harvard University and Brigham and Women's Hospital, which has published 20 peer-reviewed studies providing insights into adherence and advancing pharmacy care
 - Medication non-adherence is a frequent cause of preventable hospitalization and patient illness, with an estimated annual cost of \$290 Billion
 - Almost half of all Americans have at least one chronic disease and more than 70 percent of all health care costs are spent on treating these patients
 - There is less than a 50 percent adherence rate for patients with chronic conditions
 - Nearly 25 percent of initial prescriptions for maintenance meds are never filled
 - Of those patients who start a maintenance medication, 1 in 3 will discontinue it before the first refill is due
 - Estimated 110 million Rx's abandoned at US pharmacies each year (3.27% of Rx's)

Source: Advancing Adherence and The Science of Pharmacy Care Report; CVS Caremark

■ Exploring the Reasons Behind Non-Adherence

- Cost/DAW rules/socio-economic factors
 - Cost is strongest predictor of prescription abandonment
 - Patients with DAW Rxs 50-60 percent less likely to fill more expensive brand vs. generic equivalent¹
 - Demographics and zip code income levels are somewhat predictive of adherence
 - Medication discontinuation more than twice as likely when Medicare patients enter “donut hole”²
- Regimen complexity
 - Number of drugs, physicians, pharmacies and level of refill consolidation
- Lack of obvious symptoms and medication type
 - When taking a medication doesn’t result in feeling better (hypertension meds, cholesterol meds) vs. medications with obvious benefit (antibiotics)
- Communication challenges and/or relationship with caregiver
- Disbelief in benefit of treatment

1. The consequences of requesting “dispense as written.” Am Jnl Med. March 2011.

2. Beneficiaries with cardiovascular disease and the Part D coverage gap, Circulation: Cardiovascular Quality and Outcomes. April.2012

■ Key Findings/Things to Consider from Our Studies

- State rules regarding DAW/generic substitution
 - Eliminating DAW for appropriate generic substitutions could save US health care system as much as \$7.7B annually¹
- Promote generics
 - Generics have changed the economics for treating chronically ill patients
 - Can help keep patients adherent through Med D “donut hole”
- Develop education programs for patients and physicians to offset biases regarding generic drugs
 - Almost 25 percent of physicians have negative perceptions about generics²
- Encourage 90-day fills to improve adherence

Adherent Heart Failure patients may save the health care system as much as \$7800 per patient annually³

¹ The consequences of requesting “dispense as written. Am Jml Med. March 2011

² Physician perceptions about generic drugs. Annals of Pharmacotherapy, January 2011

³ Adherence leads to lower health care use and costs despite increased adherence. *Health Affairs*; January 2011

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■ Key Findings/Things to Consider from Our Studies

- Promote a consistent 'Pharmacy Home'
 - Use of a single pharmacy so that new scripts and renewals can be better coordinated
 - Provides clinicians with access to full prescription history and regular opportunities to interact with patients
 - Pharmacist interventions can improve patient education, close gaps in care, help with cost concerns and compliment primary care initiatives
- Understand plan designs that contribute to Rx abandonment
 - Co-pays greater than \$50 resulted in 4-times more likelihood of abandonment vs. \$10 co-pay¹
- Identify patients more likely to be non-adherent
 - 65 million Americans are self-described "family caregivers" and are more likely to fail to take their own medicine
 - Seniors were 45 percent less likely to abandon their prescriptions vs. patients 18-34 years of age¹
 - Patients with multiple co-morbid conditions were more likely to abandon a prescription¹
 - New Rxs were almost 3-times more likely to be abandoned vs. previously filled Rxs¹
- 'Active Choice' benefit environment increases compliance in the desired behavior

Pharmacists in the retail setting were found to be the most influential in getting patients to take medications as prescribed²

¹ The epidemiology of prescriptions abandoned at the pharmacy. Annals of Internal Medicine, November 2010

² Modes of delivery for interventions to improve cardiovascular medication adherence. American Journal of Managed Care, December 2010

State of The States Adherence: Michigan Stats

This information shows how different patients in the State of Michigan, serviced by CVS Caremark, are taking – or not taking – medications across four common chronic disease states

Adherence	Diabetes		Hypertension		Dyslipidemia		Depression		Overall	
	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE	RANK	VALUE
MEDICATION POSSESSION RATIO (MPR)*	49	76.2%	48	79.1%	50	78.0%	50	71.6%	49	77.0%
PERCENT OPTIMAL MPR	35	59.7%	40	64.4%	34	64.5%	50	41.5%	44	59.5%
FIRST FILL PERSISTENCY RATE (FFPR)	46	61.6%	42	61.4%	36	62.2%	36	63.6%	41	61.9%
GENERIC DISPENSING RATE (GDR)	21	57.5%	13	87.8%	12	54.0%	9	68.2%	10	70.8%
MAIL DISPENSING RATE (MDR)	28	15.0%	27	17.8%	27	22.3%	28	11.8%	27	17.6%

*AGE AND GENDER ADJUSTED

- In this analysis, the definition of adherence includes MPR, an industry standard measure of how well patients are taking their medications as prescribed
- In addition, we considered FFPR, which quantifies how many patients who are new to a medication continue to take it after the first time they fill their prescription
- Two other measures, generic- and mail-dispensing rates (GDR and MDR), are considered since cost has been found to be a consistent barrier to medication adherence

Source: State of the States: Adherence Report, CVS Caremark

State of The States Adherence: Michigan Stats

Key Facts

- MI's lower first fill persistency rates are contributing to lower MPR's
- MI's good generic dispensing rates are not translating into good adherence metrics



Michigan
STATE RATING
● **BRONZE**

Demographics

	RANK	VALUE
MALE	N/A	48.8%
OVER AGE 65	N/A	12.7%
ACTIVE (EXERCISE)	19	51.9%
OVERWEIGHT AND OBESE	42	66.8%
MEDIAN HOUSEHOLD INCOME	27	\$48,888

Access to Health Care

	RANK	VALUE
IMMUNIZED	18	73.4%
HEALTH CARE COVERAGE, COMMERCIAL	21	58.9%
HEALTH CARE COVERAGE, MEDICARE	21	13.5%
HEALTH CARE COVERAGE, MEDICAID	21	14.5%
PHYSICIANS PER 10,000 RESIDENTS	27	2.59
PHARMACY HOME RATING (1-5)	N/A	★★★★★

- Pharmacy Home is the level at which members use one pharmacy for all their Rx's and the rate at which they coordinate their refill dates for multiple Rx's
- The overall 'Bronze' rating for Michigan was based on a weighted adherence score across the four key adherence stats (MPR, FFPR, GDR and MDR), comparatively placing it within the range of the 35th to 50th ranked states

Source: State of the States: Adherence Report; CVS Caremark